

10/009204

PATENT APPLICATION

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IN THE U.S. PATENT AND TRADEMARK OFFICE

December 4, 2001

Applicants : Hiromichi INAGAKI et al

For : ADHESIVE SHEET CAPABLE OF
REPEATED ADHESION AND RELEASE

PCT International Application No.: PCT/JP01/03315

PCT International Filing Date: April 18, 2001

U.S. Application No.

(if known, see 37 CFR 1.5): Unknown

Atty. Docket No.: Komatsu Case 260

Box PCT

Assistant Commissioner for Patents

Washington, DC 20231

AMENDMENT BEFORE FIRST OFFICE ACTION

Sir:

Prior to issuance of the first Office Action in the
above-identified application, kindly enter the following:

IN THE ABSTRACT

Please replace the abstract with the new Abstract of the
Disclosure enclosed herewith. A marked-up copy is also
enclosed herewith.

IN THE SPECIFICATION

Please amend the specification as follows. Marked-up
copies of amended paragraphs are enclosed herewith.

Please amend paragraph [0006] as follows:

[0006] Methods that have been used to weaken the adhesive
strength of the adhesive include adding a synthetic resin or
an inorganic material to the adhesive, and applying the
adhesive in dots. Another way is to process the article
surface to be brought into contact with the adhesive surface
so as to provide a dotted pattern thereon, thereby reducing
the contact surface area thereof, or to apply a release agent,
so that the adhesive surface may be made mechanically easier
to handle.

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Please amend paragraph [0007] as follows:

[0007] Adhesive labels are commonly used as a means of conveying information by being printed with letters or figures as well as tags. Generally, as shown in FIG. 15, such labels have a structure in which a separator 13 is prepared by coating a separator substrate 11 (made of paper or a synthetic resin film) with a release agent 12, this separator 13 is coated with an adhesive 14, and a sheet of paper or a synthetic resin film that serves as a label substrate 15 is applied.

Please amend paragraph [0010] as follows:

[0010] The present invention is an adhesive sheet capable of repeated adhesion and release, wherein a surface of a substrate on the side coated with an adhesive agent is partially covered with a non-adhesive protective material layer to form adhesive sections not covered with the protective material layer so that spaces obtained by multiplying the surface area of the adhesive sections by the thickness of the protective material layer are regulated according to a desired adhesion strength.

Please amend paragraph [0012] as follows:

[0012] This protective material is provided so as to regulate spaces obtained by multiplying the surface area of the adhesive sections by the thickness (distance) of the protective material that the adhesive surface does not come into direct contact with other adhesive surface or with the surface of another article on which a liquid or a solid is present, such as a fingertip. This aspect will be termed a "partially covered adhesive face."

Please amend paragraph [0014] as follows:

[0014] When one face side of the substrate is coated with an adhesive agent and then the adhesive-coated surface is partially covered with the protective material to form the partially covered adhesive face, the face side that is not the

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partially covered adhesive face comes into contact with an object and is fixed to the object by heat sealing.

Please amend paragraph [0017] as follows:

[0017] The substrate face side coated with the adhesive agent may also be colored. If the adhesive-coated surface is colored and further an article is colored with white or another color with weak hiding power, the color given on the adhesive-coated surface can be seen through the adhered article when the face side coated with the adhesive agent is press bonded. Such coloration allows the adhesion state to be confirmed.

Please amend paragraph [0018] as follows:

[0018] The present invention is intended to be applied to the opening of a packaging bag, for instance, to allow repeated adhesion and release whenever necessary. To this end, the partially covered adhesive face will not adhere even if the protective material side merely touches another surface when the bag is opened. However, when pressure is applied from the back of the adhesive sections, the adhesive surfaces not covered with the protective material bend in toward the facing face of the article, and adhere thereto in a dotted pattern. Conversely, when pressure is applied from the back of the article face, this article face bends in toward the adhesive sections not covered with the protective material, and adheres only to a limited surface area to form a dotted adhesion pattern, so peeling takes less force than if the entire adhesive-coated surface adheres to the facing article face. Once peeled, the adhesive sections return to their original state of being lower than the protective material surface, and therefore do not adhere to other articles.

Please amend paragraph [0019] as follows:

[0019] FIG. 1A is a perspective view of an example of the present invention, and FIG. 1B is a diagram of the function thereof.

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Please amend paragraph [0054] as follows:

[0054] A CPP (cast polypropylene) film 30 μ thick was laminated with an OPP (biaxially oriented polypropylene) film 20 μ thick to provide a composite film with an OPP/OPP structure. The partially covered adhesive tape 6 shown in FIG. 12, which had a width of 20 mm, was sandwiched between the composite films, and was heat sealed to fasten it to the CPP side of the composite films. The composite films having the partially covered adhesive tape therebetween were heat sealed at their three sides (the bottom and the two lateral sides) with the CPP side on the inside to form a bag, the result of which was a three-sided bag equipped with a partially covered adhesive tape. The X-X cross section of this tape portion had the structure shown in FIG. 13.

IN THE CLAIMS

Please amend Claim 1 as follows. A marked-up copy is also enclosed herewith.

1. (Amended) An adhesive sheet capable of repeated adhesion and release, wherein a surface of a substrate on the side coated with an adhesive agent is partially covered with a non-adhesive protective material layer to form adhesive sections not covered with the protective material layer so that spaces obtained by multiplying the surface area of the adhesive sections by the thickness of the protective material layer are regulated according to a desired adhesion strength.

REMARKS

Entry of the foregoing amendments prior to issuance of the first Office Action is respectfully solicited. These amendments are intended to place the application in better form for consideration by the Examiner.

Respectfully submitted,


Terryence F. Chapman

TFC/smd

FLYNN, THIEL, BOUTELL	Dale H. Thiel	Reg. No. 24 323
& TANIS, P.C.	David G. Boutell	Reg. No. 25 072
2026 Rambling Road	Ronald J. Tanis	Reg. No. 22 724
Kalamazoo, MI 49008-1699	Terryence F. Chapman	Reg. No. 32 549
Phone: (616) 381-1156	Mark L. Maki	Reg. No. 36 589
Fax: (616) 381-5465	David S. Goldenberg	Reg. No. 31 257
	Sidney B. Williams, Jr.	Reg. No. 24 949
	Liane L. Churney	Reg. No. 40 694
	Brian R. Tumm	Reg. No. 36 328
	Tricia R. Cobb	Reg. No. 44 621

Encl: Marked-Up Version of Amendments
Substitute Abstract

10009204-12004
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Komatsu Case 260
Amendment Before First Office Action

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MARKED-UP VERSION OF AMENDMENTS

IN THE ABSTRACT

An adhesive sheet capable of repeated adhesion and release is provided. A non-adhesive protective material 3 layer is provided to the surface of a substrate 1 coated with an adhesive agent 2. The surface of a substrate 1 coated with an adhesive agent 2 is partially covered with a non-adhesive protective material 3 to form adhesive sections not covered with the protective material layer so that the spaces obtained by multiplying the surface area of the adhesive sections by the thickness (distance) of the protective material is adjusted so that the adhesive sheet will be capable of repeated adhesion and release.

IN THE SPECIFICATION

Please amend paragraph [0006] as follows:

[0006] Methods that have been used to weaken the adhesive strength of the adhesive include adding a synthetic resin or an inorganic material to the adhesive, and applying the adhesive in dots. Another way is to process the solid article surface to be brought into contact with the adhesive surface so as to provide a dotted pattern thereon, thereby reducing the contact surface area thereof, or to apply a release agent, so that the adhesive surface may be made mechanically easier to handle.

Please amend paragraph [0007] as follows:

[0007] Adhesive labels are commonly used as a means of conveying information by being printed with letters or figures as well as tags. Generally, as shown in FIG. 15, such labels have a structure in which a separator 13 ~~(made of paper or a synthetic resin film)~~ is prepared by coating a separator substrate 11 (made of paper or a synthetic resin film) with a release agent 12, this

separator 13 is coated with an adhesive 14, and a sheet of paper or a synthetic resin film that serves as a label substrate 15 is applied.

Please amend paragraph [0010] as follows:

[0010] The present invention is an adhesive sheet capable of repeated adhesion and release, wherein a ~~non-adhesive protective material layer is provided to the substrate surface on the side coated with an adhesive agent so that spaces obtained by multiplying the surface area of adhesive sections by the thickness of the protective material layer are regulated~~surface of a substrate on the side coated with an adhesive agent is partially covered with a non-adhesive protective material layer to form adhesive sections not covered with the protective material layer so that spaces obtained by multiplying the surface area of the adhesive sections by the thickness of the protective material layer are regulated according to a desired adhesion strength.

Please amend paragraph [0012] as follows:

[0012] This protective material is provided so as to regulate spaces obtained by multiplying the surface area of the ~~adhesive-coated face~~sections by the thickness (distance) of the protective material that the adhesive surface does not come into direct contact with other adhesive surface or with the surface of another ~~solid article~~ on which a liquid or a solid is present, such as a fingertip. This aspect will be termed a "partially covered adhesive face."

Please amend paragraph [0014] as follows:

[0014] When one face side of the substrate is coated with an adhesive agent and a ~~partially covered adhesive face is provided thereon, then the adhesive-coated surface is partially covered with the protective material to form the partially covered adhesive face,~~ the face side that is not the partially covered adhesive face comes into

contact with an object and is fixed to the object by heat sealing.

Please amend paragraph [0017] as follows:

[0017] The substrate face side coated with the adhesive agent may also be colored. If the adhesive-coated surface is colored and further an article is colored with white or another color with weak hiding power, the color given on the adhesive-coated surface can be seen through the adhered article when the face side coated with the adhesive agent is press bonded. Such coloration allows the adhesion state to be confirmed.

Please amend paragraph [0018] as follows:

[0018] The present invention is intended to be applied to the opening of a packaging bag, for instance, to allow repeated adhesion and release whenever necessary. To this end, the partially covered adhesive face will not adhere even if the protective material side merely touches another surface when the bag is opened. However, when pressure is applied from the back of the adhesive sections, the adhesive surfaces not covered with the protective material bend in toward the facing face of the solidarticle, and adhere thereto in a dotted pattern. Conversely, when pressure is applied from the back of the solidarticle face, this solidarticle face bends in toward the adhesive sections not covered with the protective material, and adheres only to a limited surface area to form a dotted adhesion pattern, so peeling takes less force than if the entire adhesive-coated surface adheres to the facing solidarticle face. Once peeled, the adhesive sections return to their original state of being lower than the protective material surface, and therefore do not adhere to other articles.

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Please amend paragraph [0019] as follows:

[0019] FIG. 1A is a perspective view of an example of the present invention, and FIG. 1B is a diagram of the function thereof.

Please amend paragraph [0054] as follows:

[0054] A CPP (cast polypropylene) film 30 μ thick was laminated with an OPP (biaxially oriented polypropylene) film 20 μ thick to provide a composite film with an OPP/CPP structure. The partially covered adhesive tape 6 shown in FIG. 12, which had a width of 20 mm, was sandwiched between the composite films, and was heat sealed to fasten it to the CPP side of the composite films. The composite films having the partially covered adhesive tape therebetween were heat sealed at their three sides (the bottom and the two lateral sides) with the CPP side on the inside to form a bag, the result of which was a three-sided bag equipped with a partially covered adhesive tape. The X-X cross section of this tape portion had the structure shown in FIG. 1213.

IN THE CLAIMS

Please amend Claim 1 as follows:

1. (Amended) An adhesive sheet capable of repeated adhesion and release, wherein a non-adhesive protective material layer is provided to a substrate surface on a side coated with an adhesive agent so that spaces obtained by multiplying the surface area of adhesive sections by the thickness of the protective material are regulatedsurface of a substrate on the side coated with an adhesive agent is partially covered with a non-adhesive protective material layer to form adhesive sections not covered with the protective material layer so that spaces obtained by multiplying the surface area of the adhesive sections by the thickness of the protective material layer are regulated according to a desired adhesion strength.

ADHESIVE SHEET CAPABLE OF REPEATED ADHESION AND RELEASE

ABSTRACT OF THE DISCLOSURE

An adhesive sheet capable of repeated adhesion and release is provided. The surface of a substrate 1 coated with an adhesive agent 2 is partially covered with a non-adhesive protective material 3 to form adhesive sections not covered with the protective material layer so that the spaces obtained by multiplying the surface area of the adhesive sections by the thickness (distance) of the protective material is adjusted so that the adhesive sheet will be capable of repeated adhesion and release.

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